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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,947	05/10/2001	Wolfgang Mehr	010456	9291

7590 05/17/2002

Law Office of Karl Hormann
86 Sparks Street
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EXAMINER

EASTHOM, KARL D

ART UNIT	PAPER NUMBER
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2832

DATE MAILED: 05/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/807,947

Applicant(s)
Mehr

Examiner
Karl Easthom

Art Unit
2832



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 8 6) ☐ Other:

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-2 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, line 5, and claim 2, lines 3 and 8, the term "in particular" is not clear as signifying either exemplary elements or claimed elements. In claim 2, "the metallic contacts" are inferentially claiming metal without antecedent basis. In claim 2, it is not clear what the asterisk and parenthesis "*" and the note below add to the claim so that same should be removed.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato. Kato discloses the claimed invention at Figs. 1-2 or 3-4. Kato discloses the layer 160 as having low electrical conductivity at col. 11, lines 53-57, doped with boron at col. 11, lines 15-27, where layer 160 is described as a doped p-type at col. 11, lines 30-40, and the material of the whole portion 13 is made of SiCGe at col. 10, lines 59-65. The contacts are 161, 162 or 158 as seen at Figs. 1-2. The dielectric is the oxidation film 53, with the semiconductor substrate 12, Fig. 5. While it is noted that the portion 160 is described as insulating, it is also noted to have "low electrical conductivity" as noted above, so that it meets the claim of the resistor, albeit having a

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high resistance. Note alternatively that 169 at Fig. 3 is a doped semiconductor, with the semiconductor disclosed in one form as SiCGe as noted above, see col. 12, lines 19-25, thus meeting the claim, and a lower resistivity. In claim 2, the in situ precipitation and further precipitation steps appear to be merely deposition steps where there is no disclosure of a specific special type of process employing that term, so that the claim is met. Note that Kato discloses heating steps also, that would aid in precipitation.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.


6. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa et al. In view of Tischler. Furukawa discloses the claimed invention at Fig. 4 except the dopant. Furukawa discloses the layer 44 as a SiGeC p-type doped emitter layer - doped with p-type dopant Ga, col. 5, lines 40-60. Since an emitter layer has a finite resistance, it meets the claims, as modified by the p-type dopant boron. The dopant boron is disclosed by Tischler at col. 8, lines 20-26 as a compatible p-type dopant for an SiC conductor. It would have been obvious to form the emitter layer 44 at Fig. 4, or the layer 53 at Fig. 5, of Furukawa, with the well known p-type dopant as a replacement for the p-type dopant as disclosed by Furukawa, where boron is disclosed as a good p-type dopant for SiC and SiCGe is an alloy thereof and is disclosed as doped

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p-type. In Furukawa et al., the dielectric and contacts are 46, 47 and 49 at Fig. 4. Or in Fig. 5, the contacts 54-56 are in direct contact with the SiGeC layer 53, which also has a finite resistivity, meeting the claims. It would have been obvious to employ the dielectric layer of Figs. 4 or 6 to that of Fig. 5 in order to protect the device. As to claim 2, the precipitation steps are deemed deposition steps as noted above.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl Easthom whose telephone number is 703-308-3306. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad, can be reached on (703) 308-7619. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722.


KARL D. EASTHOM
PRIMARY EXAMINER